ARCADIS

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Traffic Control Plan

Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

Willow Boulevard/A-Site Landfill
Operable Unit 2

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Acronyms and Abbreviations

ANSI	American National Standards Institute
BBL	Blasland, Bouck & Lee, Inc.
CD	Consent Decree
dBA	A-weighted decibels
EZ	Exclusion Zone
Georgia-Pacific LLC	Georgia-Pacific
HAZWOPER	Hazardous Materials Site Workers
HSM	Health and Safety Manager
HSP	Health and Safety Plan
MDEQ	Michigan Department of Environmental Quality
MDOT	Michigan Department of Transportation
mg/kg	milligrams per kilogram
mph	miles per hour
NRR	Noise Reduction Rating
PCB	polychlorinated biphenyl
PEAS	Pollution Emergency Alerting System
PID	photoionization detector
PPE	personal protective equipment
PVC	polyvinyl chloride
SOW	Statement of Work
TCP	Traffic Control Plan
USDOT-FHWA	United States Department of Transportation – Federal Highway Administration
USEPA	United States Environmental Protection Agency
WB/A-Site OU	Willow Boulevard/A-Site Landfill Operable Unit 2

1. Introduction

1.1 Background

On September 30, 2009 a Consent Decree (CD) for the Design and Implementation of Certain Response Actions at Operable Unit 2 of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Site; Civil Action 1-09-cv-429) was entered in the United States District Court for the western district of Michigan. The CD formalizes an agreement between Georgia-Pacific LLC (Georgia-Pacific), the U.S. Environmental Protection Agency (USEPA), and the U.S. Department of Justice that governs the Remedial Design and Remedial Action phases of work at the Willow Boulevard/A-Site Landfill Operable Unit 2 (WB/A-Site OU), located in Kalamazoo and Allegan Counties, Michigan.

A Statement of Work (SOW), included as Appendix C to the CD, describes the proposed design and remedial action work at the WB/A-Site OU. The Remedial Action is estimated to begin in the Spring of 2011, and removal activities and initial planting of vegetation are estimated to be completed by the end of 2012.

This Traffic Control Plan (TCP) includes Remedial Action-specific details on transportation routes, project area access, project area road improvement/maintenance, traffic control measures, safety procedures, and TCP-related project team responsibilities to be implemented during the construction process.

1.2 Purpose

Implementing the remedial action at the WB/A-Site OU will involve significant traffic, both onsite and on public roads. For instance, during backfilling activities, an average of 60 (up to a maximum of 80) truck loads of fill material may be hauled daily into the project area. Therefore, the measures described in this TCP will be followed to prevent injuries to workers, passengers, and pedestrians; damage to motor vehicles and/or other equipment; and damage to third party property.

An assessment of existing road conditions will be performed prior to start of construction. Documentation of this assessment will be maintained in the project files located at the ARCADIS office in Brighton, Michigan. Dry runs will be performed as necessary on all primary and alternate routes between the project area and the fill source facilities to identify potential problem areas or areas of significant traffic congestion.

2. Overview of Remedial Action Transportation Considerations

Specific aspects of the design of the WB/A-Site OU remedial action related to the development of this TCP are briefly summarized in this section. A comprehensive description of the project is provided in the *Willow Boulevard/A-Site Landfill Operable Unit 2 Remedial Design Report* (ARCADIS 2011).

2.1 Access Roads

Figure 1 *Traffic Control Plan – Potential Movements Around OU2* presents a plan view of access roads and project support areas. The existing gated entry point at the eastern end of A-Site Landfill, providing access from Lake and Olmstead Streets, will be the primary point of access to work areas. To the extent practicable, existing access points and roads will be used, and new access points will be added only as required and as property access agreements allow. An access point to the south of the existing A-Site Landfill access may be added if, during subsequent phases of the design or construction, vehicle movements at the 90-degree bend are deemed to be hazardous. In addition, an existing access point on the southern side of the Willow Boulevard landfill will be cleared for use as an access point for emergency vehicles, if necessary. Contingency plans are included in Section 6.1.

Improvements will be made to existing onsite roads to ensure durability to daily truck traffic. For instance, structural geotextile or mats may be necessary to bridge over soft or saturated soils.

Following installation of the cover system, the existing access roads around the OU will be left in place to provide access to the monitoring wells, interim recovery wells, and the berm slopes for monitoring and maintenance.

2.1.1 Post-Construction Access

Once installed, the cover system can be accessed using existing roads or by traversing the cover system by foot or by a light-weight, rubber-tired vehicle (i.e., pick-up truck). Post-construction monitoring and maintenance activities will generally be performed during dry weather to control rutting or damage to the vegetative layer. Rutted areas will be regraded and reseeded as needed; gravel will be installed at areas where continuous rutting occurs.

2.2 Offsite Borrow Source Material Transport

Aggregate materials, such as gravel, sand, and crushed concrete, as well as construction materials such as geotextile fabric will be used to construct temporary access roads and

staging areas. Backfill, topsoil, armoring rock, and river run rock will be used for restoration of excavated areas. These materials will be imported from offsite borrow sources or material suppliers and transported to the site using tractor trailers. During backfilling activities, it is anticipated that a maximum of 80 truck loads may be transported to the project area per day.

2.3 Traffic and Safety Considerations

Appropriate traffic control measures will be implemented during construction to manage traffic movement near the work areas, and the point(s) where truck traffic enters public roadways will be discussed with the Michigan Department of Transportation (MDOT) and the Kalamazoo County Road Commission prior the start of work. To maximize worker safety and minimize disruption to the local community, most material hauling and construction activities will be limited to daylight hours. For more information on traffic control measures, refer to Section 3.

All employees will wear high-visibility warning vests, all vehicles will be equipped with back up alarms and barricades, and hand or mechanical signals will be used to direct traffic near excavations. All vehicles used for transport and disposal will be labeled accordingly. Trucks should not be overloaded to the point that transport may impact roads, other vehicles, or endanger the operator of the truck. Vehicle operators will not be allowed to climb on trucks to tarp. For more information on health and safety measures, refer to Section 4.

2.4 Soil and Sediment Control

Control measures such as using lined trucks, performing additional solidification, or reducing truck loads will be implemented where needed to minimize the loss of material while hauling onsite. Tracked soils or sediments will be removed from the access roads. Heavy equipment, tractor trailers, work trucks, project support vehicles, and other traffic leaving the active Exclusion Zone (EZ) will be decontaminated at the appropriate staging area prior to leaving the EZ.

Trucks that will travel over public roads will generally remain separated from active work areas to avoid contact with polychlorinated biphenyls (PCB)-impacted materials. Prior to leaving the work area, all vehicles will be inspected for the presence of impacted soil or sediment. Vehicle bodies and tires will be decontaminated as necessary by cleaning manually with brushes and/or a pressure washer.

3. Traffic Control Measures

Equipment used during the remedial action will include dump trucks and/or tractor trailers, construction worker vehicles, delivery vehicles, and visitor vehicles. Off-road vehicles and equipment will travel only within the active construction site, while over-the-road trucks will travel on public roads to haul materials onsite or offsite.

Transportation activities will be orchestrated to minimize, to the extent practical, impacts to local traffic and to minimize onsite dust generation. The maximum speed limit for all vehicles within the project area will be 10 miles per hour (mph). Material hauling and construction activities will be limited to daylight hours. Bulk material deliveries (e.g., aggregate, materials, or equipment) will be hauled in delivery trucks separate from those used to transport contaminated materials around the site in order to avoid hauling scheduling problems and to ensure proper delivery of materials. All trucks transporting waste offsite will be staged within the work area to avoid impacts on public roads.

3.1 Transportation Routes

As shown on Figure 1, construction traffic will be directed to travel to and from the project area along established truck routes. These routes provide efficient travel routes for construction vehicles while minimizing the impact on local traffic. Secondary routes to the site have also been identified for emergency use.

Prior to commencing hauling operations, field crews will conduct a detailed assessment and documentation of road conditions. Dry runs will be performed prior to hauling on all routes between the project area and the borrow source facilities to identify potential problem areas or areas of significant traffic congestion.

3.2 Public Safety Measures

Warning signs and traffic controls will be employed when necessary (consistent with the 2003 U.S. Department of Transportation – Federal Highway Administration [USDOT-FHWA] *Manual on Uniform Traffic Control Devices* and state and local regulations) to alert local traffic to trucks entering and leaving the project areas via local roads. Flagmen and/or signage will also be employed to manage traffic and alert non-project-related drivers of new travel patterns. Local law enforcement agencies and highway departments will be consulted and notified of the planned construction schedule and designated truck routes.

During peak traffic periods, the timing of construction traffic may be adjusted to avoid increased congestion and conflicts with local traffic patterns. There will be no lane closures to create exclusive truck traffic lanes.

All applicable local, city, and state ordnances will be observed, including Michigan Motor Vehicle Code Act 300 of 1949, which outlines traffic rules for right-of-way, traffic signals, speed restrictions; size, weight, load, and noise restrictions; registration fees; and inspection of vehicles.

4. Health and Safety Considerations

4.1 Traffic Safety Measures

Exposure to vehicular traffic is likely during certain project operations and when entering and exiting the project area. To maintain a safe project area and minimize the risk of injury to personnel, the following procedures will be implemented:

- All onsite personnel who are potentially exposed to vehicular traffic must wear an outer layer of orange warning garments, such as vests, jackets, or shirts. If work is performed in hours of dusk or darkness, workers must wear reflective garments; acceptable colors include orange, white (including silver-coated reflective coatings or elements that reflect white light), yellow, fluorescent red-orange, and fluorescent yellow-orange.
- The flow of traffic must be assessed and precautions taken to warn motorists of the presence of workers and equipment.
- Cones must be placed along the shoulder of the roadway starting 100 feet from the work area to alert passing motorists to the presence of personnel and equipment. A “Slow” or “Men Working” sign must be placed at the first cone. Barricades with flashing lights will be placed between the roadway and the work area.
- Where possible, vehicles should be aligned to provide physical protection of people and equipment. During activities along a roadway, equipment must be aligned parallel to the roadway (to the extent feasible) and face oncoming traffic so as to place a barrier between the work crew and the oncoming traffic. All crewmembers must remain behind the equipment and the traffic barrier.

4.2 Project Health and Safety Guidance

Detailed Health and Safety procedures are presented in the *Multi-Area Health and Safety Plan for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site* (Multi-Area HSP; ARCADIS BBL 2007) and its associated addenda; all project personnel are required to be familiar with its contents. Addendum 6 of the Multi-Area HSP (ARCADIS 2009) contains information specifically pertaining to the WB/A-Site OU remedial action.

The objective of the Multi-Area HSP and addenda is to provide a mechanism for establishing safe working practices while conducting the WB/A-Site OU remedial action activities. The safety organization, procedures, and protective equipment have been established based on an analysis of potential physical, chemical, and biological hazards. Specific hazard control methodologies have been evaluated and selected to minimize the potential of injury, illness, or other hazardous incident. Section 4 of the Multi-Area HSP presents General Safety Practices

and Section 5 presents personal protective equipment (PPE) requirements. Section 3 of Addendum 6 of the Multi-Area HSP discusses project hazards and controls. A copy of the Multi-Area HSP and its associated addenda will be available at the ARCADIS project trailer.

4.3 Emergency Contacts

Table 4-1 (below) presents specific emergency contact information. *ARCADIS* Employees who sustain non-emergency, non-life threatening, work-related injury or illness should contact Workcare™ at 800.465.6155 prior to proceeding to an emergency room or clinic.

Table 4-1 – Emergency Contacts

Agency	Telephone No.
Emergency Services	
Fire	911 (if possible, indicate nearest highway marker or exit name or number)
Police	911 (if possible, indicate nearest highway marker or exit name or number)
Ambulance	911 (if possible, indicate nearest highway marker or exit name or number)
Regulatory Contacts	
Regional Duty Officer, Emergency Response Branch, Region 5	Phone: 312.353.2318
Pollution Emergency Alerting System (PEAS)	Phone: 800.292.4706 (within Michigan) Phone: 517.373.7660 (outside of Michigan)
USEPA Remedial Project Manager: Michael Berkoff	Phone: 312.353.8983
National Response Center	800.424.8802
ARCADIS Staff	
ARCADIS WB/A-Site OU Project Coordinator: Pat McGuire	Phone: 315.671.9233 Cell: 315.420.5629
ARCADIS Construction Project Manager: EJ Suardini	Cell: 734.276.2566
ARCADIS Health and Safety Manager: Charles P. Webster, CSP	Phone: 315.671.9297 Cell: 315.247.5971

5. Roles and Responsibilities

Responsibilities of ARCADIS personnel and transporters as they related to this TCP are outlined in Section 5.1. Table 5-1 (below) includes a summary of key project personnel and contacts.

Table 5-1 – Key Personnel

Role	Name	Address/Telephone No.
ARCADIS Personnel		
Project Coordinator	Patrick McGuire	6723 Towpath Road P.O. Box 66 Syracuse, NY 13214 Phone: 315.671.9233 Cell: 315.420.5629
Engineer of Record	William Rankin, P.E.	6723 Towpath Road P.O. Box 66 Syracuse, NY 13214 Phone: 315.671.9209 Cell: 315.263.0483
Health and Safety Manager	Charles P. Webster, CSP	6723 Towpath Road P.O. Box 66 Syracuse, NY 13214 Phone: 315.671.9297 Cell: 315.247.5971
Traffic Supervisor	*Michael Kohagen*	*10559 Citation Drive* *Brighton, MI 48116* *Cell: 248.808.3701*
Georgia-Pacific Personnel		
Technical Lead	Garry Griffith, P.E.	951 County Street Milan, MI 48160 Phone: 734.439.1205 Cell:734.735.0780
Construction Manager	Zachary Melda	133 Peachtree St, NE Atlanta, GA 30303 Phone: 404.652.4863 Cell: 678.938.4712

Role	Name	Address/Telephone No.
USEPA Region 5 Personnel		
Remedial Project Manager	Michael Berkoff	77 W. Jackson Blvd (SRF-6J) Chicago, IL 60604 Phone: 312.353.8983
Michigan Department of Environmental Quality Personnel		
Michigan Department of Environmental Quality (MDEQ) Project Manager	Kristi Zakrzewski	Superfund Section 525 W. Allegan St. 3rd Floor South Lansing, MI 48909 Phone: 517.373.2937
Michigan Department of Transportation		
Bureau of Transportation Planning – Statewide Transportation Planning Division	Denise Jackson, Administrator	425 West Ottawa P.O. Box 30050 Lansing, MI 48909 Phone: 517.335.2962
Michigan State Police		
Michigan State Police – 1st District Headquarters	Captain Dan Smith	7119 N. Canal Road Lansing, MI 48913 Phone: 517.322.1912
Michigan State Police – 2nd District Headquarters	Captain Harold Love	42145 W. Seven Mile Road Northville, MI 48167 Phone: 248.380.1020
Michigan State Police – 5th District Headquarters	Captain Greg Krusinga	108 W. Michigan Ave. Paw Paw, MI 49079 Phone: 269.657.6081
Kalamazoo Charter Township		
Police	Tim Bourgeios, Chief	Phone: 269-343-0551 Address: 1720 Riverview Drive Kalamazoo, MI 49004
Fire	David J. Obreiter, Chief	Phone: 269-381-8080 Address: 1720 Riverview Drive Kalamazoo, MI 49004

5.1 ARCADIS Personnel

5.1.1 Project Coordinator and Engineer of Record

The Project Coordinator and Engineer of Record are responsible for verifying that WB/A-Site OU project activities are completed in accordance with the requirements of this TCP and confirming that the Traffic Supervisor has the equipment, materials, and qualified personnel to fully implement the TCP requirements. It is also the responsibility of the Project Coordinator and Engineer of Record to perform the following duties:

- Coordinate with DOT and local officials as necessary
- Consult with the Traffic Supervisor on traffic-related issues
- Review Loss Prevention Observation Reports (Appendix A of the Multi-Area HSP)
- Verify that all incidents and near-misses are thoroughly investigated and reported to Georgia-Pacific within 24 hours of notification
- Approve, in writing, addenda or modifications to this TCP
- Suspend work or modify work practices, as necessary, for personal safety, protection of property, and regulatory compliance

5.1.2 Health and Safety Manager

The Health and Safety Manager (HSM) is responsible for providing technical support to the Project Coordinator, Engineer of Record, and Traffic Supervisor and answering inquiries regarding ARCADIS health and safety procedures, project procedures, and other technical or regulatory issues. The HSM is also responsible for investigating incidents and near-misses, assisting in developing corrective action plans, and verifying corrective actions.

5.1.3 Traffic Supervisor

The Traffic Supervisor will be responsible for implementing this TCP and communicating requirements to project personnel. The Traffic Supervisor is also responsible for discussing issues associated with the established work plan or procedures and impacts related to conditions within the project area so that those changes may be addressed as appropriate in this TCP. It is also the responsibility of the Traffic Supervisor to perform the following duties:

- Confirm that all soil/material on tractor trailer trucks, including tires, has been removed (if necessary) prior to leaving the project area
- Consult with the HSM on traffic health and safety issues
- Post the telephone numbers of local public representatives in the project trailer and notify those officials (as appropriate) of the nature of the traffic-related project operations
- Investigate and report any traffic incidents and near-misses to the HSM
- Verify that all project personnel have completed applicable transportation training
- Conduct traffic orientation training and meetings
- Review transportation activities with respect to compliance with this TCP

5.2 Transporters

Transportation of fill material and armoring rock will be conducted by the Contractor. All truck drivers must be fully licensed and insured and in compliance with USDOT requirements.

6. Contingency Plans

6.1 Primary and Alternate Routes

If the primary transport route to one of the disposal facilities is unavailable or becomes excessively congested (i.e., due to outside construction or temporary road/lane closures) an alternative route will be used. ARCADIS will notify the USEPA, MDEQ, and the Kalamazoo Charter Township representatives if an alternate route is used or if truck traffic is rerouted. In addition, due to unforeseen circumstances such as extended road closures or road construction activities, access routes may need to be modified during construction. If at any time the access routes require modifications, ARCADIS will discuss the modifications with the USEPA, MDEQ, and the Kalamazoo Charter Township prior to implementation. Associated modifications to this TCP will be made as necessary in these situations.

Significant hazards during transportation include traveling on congested roads and through significantly populated areas, and sharp turns at intersections. To minimize these hazards, all efforts will be made to conduct transportation activities during regular business hours (i.e. 7am to 7pm), to make transporters aware of all local traffic patterns, and if necessary and where possible, to utilize temporary traffic lights or other traffic control measures in strategic locations to improve the flow of traffic and assist transporters in making sharp turns.

6.2 Oil (Fuel, Diesel Fuel, and/or Hydraulic Fluid) Spills

If an oil spill exceeding 10 gallons occurs, respond as follows:

- Notify the Construction Project Manager, who will contact the Project Coordinator (identified in Table 5-1).

- Identify the appropriate workers to respond and the necessary PPE requirements. Workers responding to a spill must be trained Hazardous Materials Site Workers (HAZWOPER) wearing appropriate PPE. Section 5 of the Multi-Area HSP (ARCADIS BBL 2007) presents a description of PPE requirements. Varying levels of protection may be required depending on the levels of potential contamination and the degree of physical hazard. At a minimum, if airborne PCBs are not present at levels of concern during spill response activities, Modified Level D PPE must be used when the activities present an increased potential for skin contact with contaminated materials. Modified Level D PPE consists of the following:

    - Work clothing as prescribed by weather conditions

- American National Standards Institute (ANSI) Z41-approved protective footwear (must cover to at least 6 inches above the ankle)
- Safety glasses (as necessary) with side shields or goggles, meeting ANSI Z87
- Hard hat, meeting ANSI Z89, when falling object hazards are potentially present
- Hearing protection (if noise levels exceed 85 A-weighted decibels [dBA], then hearing protection with a USEPA Noise Reduction Rating [NRR] of at least 20 dBA must be used)
- Latex/polyvinyl chloride (PVC) overboots when contact with PCB-impacted media is anticipated
- Face shield in addition to safety glasses or goggles when projectiles or splash hazards exist
- Nitrile outer gloves worn over nitrile surgical gloves Tyvek ® coveralls (polyethylene-coated Tyvek ® suits for handling liquids) when body contact with PCB-impacted media is anticipated
- Personal flotation device if working on or near a body of water

- If determined necessary by the Project Coordinator, the Project Coordinator will notify the regulatory agencies listed in Table 5-1.

- Document the location of the spill in the Site Log book.

- Perform a visual assessment of the situation and determine preliminary response actions and alert facility personnel in the area of the spill or release. The Site Supervisor will issue evacuation orders, if warranted. Attempts to control or stop the release will be made by the HAZWOPER-trained responders, who will also attempt to minimize the spread of contamination to the ground surface or to water.

- Determine whether or not the fuel is entering a waterway (i.e., river, stream, storm sewer inlet, etc.). If it is, block the flow of free product.

- After the spill or release has been controlled and contained, cleaned up the spill. All spilled materials and response equipment will be properly containerized and disposed of following resolution of the spill or release incident.

- If the spill cannot be removed immediately, mark the area where the spill occurred with degradable spray paint and caution tape. Secure the spill site from entry by unauthorized personnel by roping off the area and posting warning signs.

- If the spill occurred on a pervious surface, remove soil until visual observations and photoionization detector (PID) readings indicate there is no contamination. Contaminated soil should be containerized and disposed of at an approved disposal facility in accordance with all applicable state and federal regulations.

- If the spill occurred on an impervious surface, surround the spill with a dike using absorbent material to prevent further spreading. Use absorbent material to remove visible traces of fuel. Place contaminated absorbent material in a sealable, leak-proof container and label the container to identify the fuel for disposal.

- Dispose of the spilled material in properly labeled containers for offsite transport to an approved disposal facility in accordance with all applicable state and federal regulations.

- Obtain soil samples and arrange for analysis, as necessary.

7. References

ARCADIS 2011. *Willow Boulevard/A-Site Landfill Operable Unit 2 Remedial Design Report.* March 2011.

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